infections, although the incidence of symptomatic infections in the older age classes does increase. The impact of the different assumptions used in the model was in general limited. **CONCLUSIONS:** We conclude that over a wide range of assumptions, an additional booster dose can reduce the incidence of pertussis in the population.

PIN100

WHY DON'T HEALTH PRACTITIONERS PRESCRIBE RATIONALLY IN MALARIA? A QUALITATIVE STUDY FROM PAKISTAN

Malik M[1], Hassali MA[2], Hussain A[1], Shafie AA[3]
[1]*Universiti Sains Malaysia (USM), Islamabad, Punjab, Pakistan,* [2]*Discipline of Social & Administrative Pharmacy, Universiti Sains Malaysia, Pinang, Palau Pinang, Malaysia,* [3]*Universiti Sains Malaysia (USM), Penang, Penang, Malaysia*

OBJECTIVES: To investigate doctors' perceptions towards factors underlying irrational prescribing practices in treatment of malaria in Pakistan. **METHODS:** A qualitative study with snowball sampling technique was used to identify nineteen doctors working at hospitals in Islamabad and Rawalpindi. Semi-structured interviews were conducted with the doctors until the point of saturation was obtained. The interviews, which were audio-taped and transcribed verbatim, were evaluated by thematic content analysis and by other authors' analysis. **RESULTS:** Thematic content analysis identified three major themes and several subthemes: 1) Factors responsible for irrational prescribing practices in treatment of malaria; 2) Lack of implementation of standard malaria treatment guidelines in the country; and 3) Strategies to improve irrational prescribing practices in treatment of malaria. All the doctors agreed on lack of implementation of standard guidelines in treatment of malaria while mixed responses were observed regarding factors influencing rational prescribing. Influence of pharmaceutical industry and unsupervised polytherapy were cited as major determinants for irrational prescribing practices in case of malaria. **CONCLUSIONS:** The findings suggest that the doctors in Pakistan are aware of irrational prescribing practices and its consequences in treatment of malaria but are facing significant barriers in terms of improving the current prescribing practices. There is an urgent need to design strategies such as implementation of standard malaria treatment guidelines, revision of health policies and up gradation of education and training of health players in order to improve the current prescribing practices for antimalarials.

PIN101

NEW INSIGHTS ON THE SPREAD OF INFLUENZA THROUGH AGENT BASED EPIDEMIC MODELING

Miksch F[1], Urach C[2], Popper N[1], Zauner G[3], Endel G[4], Schiller-Frühwirth I[4], Breitenecker F[2]
[1]*dwh Simulation Services, Vienna, Austria,* [2]*Vienna University of Technology, Vienna, Austria,* [3]*Dwh Simulation Services, Vienna, Austria,* [4]*Main Association of Austrian Social Security Institutions, Vienna, Austria*

OBJECTIVES: Every winter season an influenza epidemic occurs, although strength and duration may vary. In 2006-2007 in Austria presumably 5% of the whole population fell sick while 21% of age 15 and above were vaccinated. The goal was to build an agent based model to understand, model and simulate the progress of influenza epidemics. **METHODS:** The agent based model simulates single persons with an infection state (susceptible, infected with or without symptoms, resistant, vaccinated). Based on the results of a wide European study (POLYMOD, EC-Project SP22-CT-2004-502084) people have contacts in different places like housholds, schools or workplaces. Transmissions are possible upon contacts, then a person is infected for a while until he or she becomes resistant upon recovery. **RESULTS:** The outbreak of the epidemic starts when a few people are initially infected while the rest is susceptible or vaccinated. After some time the epidemic stops due to a larger number of resistant and a smaller number of susceptible people. Since only 5% of the population fall sick the situations at outbreak and at termination of the epidemic are similar and therefore it behaves very sensitive to parameter changes. **CONCLUSIONS:** Some parameter changes in the model can be interpreted as interventions in reality. But usually the influenza does not react sensitive to interventions. For example, an increase of the vaccination rate by 5% prevents an outbreak of the epidemic in the model which is obviously not true. This insight has two consequences: First, the influenza does not just spread and stop by transmission and recovery of people. There must be one or more other impacts modulating outbreaks like predestined people to fall sick or the climate. Second, without knowledge of these impacts it is almost impossible to predict the effect of vaccination strategies exactly.

PIN102

NATIONAL COST SAVINGS FROM THE BRAZILIAN HIV/AIDS ANTIRETROVIRAL UNIVERSAL ACCESS PROGRAM: ANALYSIS VERSUS CANADA AND AUSTRALIA

Becker RV[1], Teich V[2], Pepe C[2]
[1]*Russell Becker Consulting, Chicago, IL, USA,* [2]*MedInsight, Sao Paulo, Sao Paulo, Brazil*

OBJECTIVES: In 1996, the Brazilian government implemented a universal access program for anti-retroviral drugs to improve the treatment of HIV/AIDS. A recent study showed $1.78 billion USD savings from the program compared to pricing in the US. This study estimates the drug costs saved in 2010 by the program's implementation compared to pricing in Canada and Australia. **METHODS:** Nationwide drug distribution data and drug prices for the Brazilian government's antiretroviral access program were obtained for 2010 from the Ministry of Health data. Drug prices for each drug were converted to daily dosage costs in US dollars. Comparable government drug prices were obtained for Ontario, Canada and Australia. The Brazilian, Canadian, and Australian unit drug costs were multiplied by the distribution rates in Brazil to calculate and compare the cost of the Brazilian 2010 drug distribution using the Brazilian and Canadian/Australian pricing rates. Any cost savings to the Brazilian government were also calculated. The savings calculation assumes that the Brazilian government has paid for all of the drugs distributed regardless of patient utilization rates. Sensitivity analysis was conducted on the distribution rates, pricing, and utilization rates. **RESULTS:** The Brazilian government saved $448.1 million USD in and $403.1 million USD 2010 versus Canada and Australia, respectively through its pricing program. The total cost of the drugs distributed was $1.94 billion with the Brazilian pricing. This compares to $2.37billion and $2.41 billion dollars using Canadian and Australian pricing rates, respectively. Sensitivity analysis found the results to be stable. **CONCLUSIONS:** Significant costs savings have been realized by the Brazilian government through its drug pricing program. These costs savings should be included as part of any analysis of the overall impact of the program.

PIN103

A COMPARISON OF INVESTMENTS FOR DIFFERENT PREVENTION PROGRAMS: RESPIRATORY SYNCYTIAL VIRUS PROPHYLAXIS VERSUS HUMAN PAPILLOMA VACCINE

Roggeri D[1], Sambrook R[2], Lozano-Ortega G[3], Gooch K[4], Soro M[5]
[1]*ProCure Solutions Sas, Nembro, BG, Italy,* [2]*Oxford Outcomes Ltd., Vancouver, BC, Canada,* [3]*Oxford Outcomes, Vancouver, BC, Canada,* [4]*Abbott Laboratories, Abbott Park, IL, USA,* [5]*Abbott Italia Srl, ROMA, RM, Italy*

OBJECTIVES: Childhood prevention programs are important and imperative public health initiatives. However, prevention programs are often associated with considerable investments. This budget impact analysis was undertaken to position the Italian investment for a program to prevent respiratory syncytial virus (RSV) consequences in high-risk infants using palivizumab. This prevention program is compared to an existing immunization program in the Lombardy region of Italy: Human Papillomavirus Vaccine [Types 6, 11, 16, 18] (HPV), considered standard of care. **METHODS:** Two budget impact models were developed to assess the impact of two different programs on Regional Health Service (RHS) expenditure: the budget impact of RSV prophylaxis program was compared with a non-prophylaxis program, while the budget impact of HPV active prophylaxis was compared with a non-prophylaxis approach. Only direct costs based on disease prevalence, and program efficacy were included. The model includes RSV prophylaxis administration costs, RSV-related resource consumption (visits, long term sequelae) and RSV hospitalization over one year; for HPV prevention program, one year prophylaxis was assessed against 5 years disease costs due to the low incidence of HPV related disease in 1 year. Eligible subjects were preterm and high-risk infants (as established by national guidelines) for RVS program and all 12-year-old girls cohort for HPV program. **RESULTS:** RSV prophylaxis expenditure was estimated at €11,577,776 in the prophylaxis program arm versus €5,206,534 in the 'without prophylaxis program' arm, while for HPV prevention program, vaccination program expenditure (including vaccine cost) would be 13,068,025€ vs. 356,385€ in no-vaccine arm. The net budgetary impact was calculated at €6.4 million for RSV vs. €12.7 million for HPV vaccination. **CONCLUSIONS:** Considering the RHS perspective, the budget impact of palivizumab had lower program costs and higher disease cost offsets vs. HPV vaccination program, positioning its economic value well within the parameters of cost-effective childhood prevention programs.

PIN104

PRO'S IN EVALUATING RESOURCE UTILISATION AND ABSENTEEISM IN PEOPLE RECEIVING INFLUENZA VACCINATION

Wade A[1], Crawford G[1], Pumford N[1], Mcconnachie A[2]
[1]*Patients Direct, Glasgow, UK,* [2]*Glasgow University, Glasgow, UK*

OBJECTIVES: To investigate whether patient reported outcomes could detect differences between H1N1 and seasonal influenza vaccinations on resource utilisation and time off work over a 26 week follow up period. **METHODS:** In this evaluation, PROBE methodology consisting of a web-based system supplemented by telephone reporting was used to collect naturalistic data from people who had received an influenza vaccination during 2009-2010 season. People were recruited through media advertising and awareness campaigns in public places and work (West of Scotland). Data collection on day of immunisation, after 3 days, 8 days, 6 weeks, 12 weeks and 26 weeks. Data included baseline demographics, any side effects following vaccination including the duration/ resource use and time off work. **RESULTS:** A total of 1103 vaccine recipients participated in the evaluation. Overall, 42% of respondents reported experiencing any side effect after vaccination (excluding pain/discomfort at site of injection) with more people reporting a side effect with H1N1 vaccination (45% versus 26% seasonal flu vaccination versus 42% receiving both vaccines p=0.001). However, there was no significant difference in health service utilisation between the groups – 5.2% H1N1, 2.3% Seasonal, 5.5% both vaccines p=0.468. 4 (0.6%) people in the H1N1 only group received hospital treatment, 1 (0.8%) in the seasonal only group and 2 (0.9%) receiving both vaccines. Time off work (absenteeism), in relation to flu like symptoms, also showed no significant difference between the groups – 1.7% H1N1, 1.9% Seasonal, 3.4% both vaccines p=0.486. **CONCLUSIONS:** This evaluation shows that the PROBE methodology quickly and simply captured patient reported outcome information on resource utilisation and absenteeism in a vaccinated population. People receiving the H1N1 vaccination alone were more likely to experience side effects than seasonal influenza vaccination alone but this did not lead to a significant increase in resource utilisation or time off work.

PIN105

FINANCIAL SUPPORT FOR HIV/AIDS PREVENTION, CARE AND TREATMENT IN THAILAND

Layton MR[1], Pachanee K[2], Prakongsai P[3]